

## **APPENDIX N – Plug & Abandonment Plan Supporting Information**



United States Environmental Protection Agency  
Washington, DC 20460

## PLUGGING AND ABANDONMENT PLAN

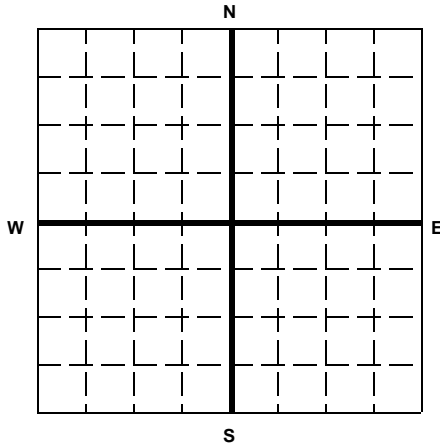
### Name and Address of Facility

Archer Daniels Midland Company  
4466 Faries Parkway, Decatur, IL 62526

### Name and Address of Owner/Operator

Archer Daniels Midland Company  
4466 Faries Parkway, Decatur, IL 62526

### Locate Well and Outline Unit on Section Plat - 640 Acres



### State

Illinois

### County

Macon

### Permit Number

### Surface Location Description

☐ 1/4 of se 1/4 of se 1/4 of nw 1/4 of Section 32 Township 17n Range 3e

Locate well in two directions from nearest lines of quarter section and drilling unit

### Surface

Location ☐ ft. frm (N/S) ☐ Line of quarter section  
and ☐ ft. from (E/W) ☐ Line of quarter section.

### TYPE OF AUTHORIZATION

- ☒ Individual Permit  
☐ Area Permit  
☐ Rule

Number of Wells

### WELL ACTIVITY

- ☐ CLASS I  
☐ CLASS II  
☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage  
☐ CLASS III

Lease Name ADM

Well Number Class VI CCS#2

### CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
20	94	350	350	26
13 3/8	61	5300	5300	17 1/2
9 5/8	40	5000	5000	12 1/4
9 5/8	47	2500	2500	12 1/4

### METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☒ The Balance Method  
☐ The Dump Bailer Method  
☐ The Two-Plug Method  
☐ Other

### CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	8.681	8.835					
Depth to Bottom of Tubing or Drill Pipe (ft)	7000	4000					
Sacks of Cement To Be Used (each plug)	1333	1443					
Slurry Volume To Be Pumped (cu. ft.)	1480	1703					
Calculated Top of Plug (ft.)	4000	Surf					
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	15.9	15.9					
Type Cement or Other Material (Class III)	CO2 res	Class A					

### LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
6700	7050		

### Estimated Cost to Plug Wells

Plugs set in 500 ft lifts  
Estimated Cost \$480,043

### Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Mark Bureau, Decatur Corn Plant Manager

Signature

Date Signed

12/05/2012

### **Paperwork Reduction Act Notice**

The public reporting and record keeping burden for this collection of information is estimated to average 19.5 hours annually for operators of Class I wells, 6 hours annually for operators of Class II wells, and 8 hours annually for operators of Class III wells. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Please send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Office of Environmental Information, Collection Strategies Division, U.S. Environmental Protection Agency (2822), Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA ICR number and OMB control number in any correspondence.



United States Environmental Protection Agency  
Washington, DC 20460

## PLUGGING AND ABANDONMENT PLAN

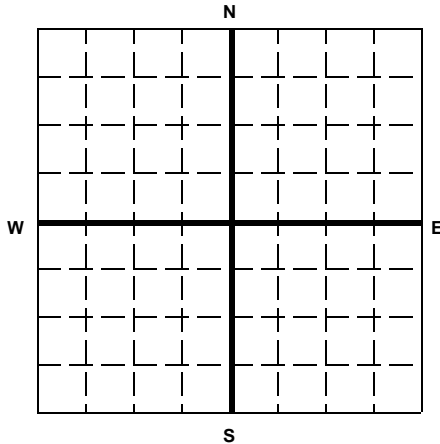
### Name and Address of Facility

Archer Daniels Midland Company  
4666 Faries Parkway; Decatur, IL 62526

### Name and Address of Owner/Operator

Archer Daniels Midland Company  
4666 Faries Parkway; Decatur, IL 62526

### Locate Well and Outline Unit on Section Plat - 640 Acres



### State

Illinois

### County

Macon

### Permit Number

### Surface Location Description

☐ 1/4 of ☐ nw 1/4 of ☐ ne 1/4 of ☐ nw 1/4 of Section  Township  Range

### Locate well in two directions from nearest lines of quarter section and drilling unit

### Surface

Location  ft. from (N/S)  S Line of quarter section  
and  ft. from (E/W)  e Line of quarter section.

### TYPE OF AUTHORIZATION

- ☒ Individual Permit  
☐ Area Permit  
☐ Rule

Number of Wells

### Lease Name

ADM

### WELL ACTIVITY

- ☐ CLASS I  
☐ CLASS II  
☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage  
☐ CLASS III

### Well Number

Monitor Well VW#2

### CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
13 3/8	54.50	363	363	17 1/2
9 5/8	40	5316	5316	12 1/4
5 1/2	17	4961	4961	8 1/2
5 1/2	17 Cr	2259	2259	8 1/2

### METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☒ The Balance Method  
☐ The Dump Bailer Method  
☐ The Two-Plug Method  
☐ Other

### CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	4.892	4.892					
Depth to Bottom of Tubing or Drill Pipe (ft)	7030	4000					
Sacks of Cement To Be Used (each plug)	425	442					
Slurry Volume To Be Pumped (cu. ft.)	477	522					
Calculated Top of Plug (ft.)	4000	Surf					
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	15.9	15.9					
Type Cement or Other Material (Class III)	CO2 res	Class A					

### LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
7025	7027	6060	6062
6910	6912	5700	5702
6805	6807	Perfs are estimates	
6540	6542	Six zones in Mt. Simon to be	perforated

### Estimated Cost to Plug Wells

Plugs to be set in 500 ft lifts  
Estimated cost of plugging \$363740

### Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

### Name and Official Title (Please type or print)

Mark Bureau Decatur Corn Plant Manager

### Signature

### Date Signed

12/05/2012

### **Paperwork Reduction Act Notice**

The public reporting and record keeping burden for this collection of information is estimated to average 19.5 hours annually for operators of Class I wells, 6 hours annually for operators of Class II wells, and 8 hours annually for operators of Class III wells. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Please send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Office of Environmental Information, Collection Strategies Division, U.S. Environmental Protection Agency (2822), Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA ICR number and OMB control number in any correspondence.



United States Environmental Protection Agency  
Washington, DC 20460

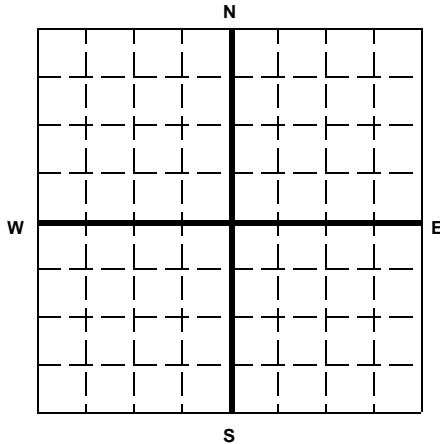
## PLUGGING AND ABANDONMENT PLAN

**Name and Address of Facility**

Archer Daniels Midland Company  
4666 Faries Parkway; Decatur, IL 62526

**Name and Address of Owner/Operator**

Archer Daniels Midland Company  
4666 Faries Parkway; Decatur, IL 62526

**Locate Well and Outline Unit on  
Section Plat - 640 Acres**

**State**

Illinois

**County**

Macon

**Permit Number**
**Surface Location Description**

☐ 1/4 of SW 1/4 of SW 1/4 of NE 1/4 of Section 32 Township 17N Range 3E

**Locate well in two directions from nearest lines of quarter section and drilling unit**
**Surface**

Location ☐ ft. from (N/S) n Line of quarter section  
and ☐ ft. from (E/W) e Line of quarter section.

**TYPE OF AUTHORIZATION**

- ☒ Individual Permit  
☐ Area Permit  
☐ Rule

Number of Wells 1

**Lease Name**

ADM

**WELL ACTIVITY**

- ☐ CLASS I  
☐ CLASS II  
☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage  
☐ CLASS III

**Well Number**

Geophysical monitor GM#2

**CASING AND TUBING RECORD AFTER PLUGGING**

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
9 5/8	40	334	334	12 1/4
4 1/2	17.6	3547	3547	8 1/2

**METHOD OF EMPLACEMENT OF CEMENT PLUGS**

- ☐ The Balance Method  
☐ The Dump Bailer Method  
☐ The Two-Plug Method  
☒ Other

**CEMENTING TO PLUG AND ABANDON DATA:**

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	4.000						
Depth to Bottom of Tubing or Drill Pipe (ft)	3450						
Sacks of Cement To Be Used (each plug)	255						
Slurry Volume To Be Pumped (cu. ft.)	301						
Calculated Top of Plug (ft.)	Surf						
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	15.9						
Type Cement or Other Material (Class III)	Class A						

**LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)**

From	To	From	To
3540	3550		
Perfs are estimates	base of St. Peter formation		

**Estimated Cost to Plug Wells**

Plug to set by squeezing cement down casing and filling well with cement  
Cost estimate \$23135

### Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

**Name and Official Title (Please type or print)**

Mark Bureau, Decatur Corn Plant Manager

**Signature**
**Date Signed**

12/05/2012

### **Paperwork Reduction Act Notice**

The public reporting and record keeping burden for this collection of information is estimated to average 19.5 hours annually for operators of Class I wells, 6 hours annually for operators of Class II wells, and 8 hours annually for operators of Class III wells. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Please send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Office of Environmental Information, Collection Strategies Division, U.S. Environmental Protection Agency (2822), Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA ICR number and OMB control number in any correspondence.

<b>Plugging Cost Estimate CCS# 2 , Injection Well</b>	<b>Cost Estimate</b>
Rig time 14 days X \$12000	\$168,000
Rental work string	\$50,000
Misc Rentals BOB etc 14 x \$750	\$10,500
Fluid handling frac tanks etc	\$35,000
Contract services spooling etc	\$25,000
Fluid costs kill fluid	\$25,000
Cementing costs Franklin estimate	\$116,543
Supervision	\$20,000
Mob and De-Mob	\$30,000
<b>Total Plugging Estimate</b>	<b>\$480,043</b>

<b>Plugging Cost Estimate VW#2 , Monitor Well</b>	<b>Cost Estimate</b>
Rig time 12 days X \$12000	\$144,000
Rental work string	\$50,000
Misc Rentals BOB etc 14 x \$750	\$10,500
Fluid handling frac tanks etc	\$20,000
Contract services spooling etc	\$25,000
Fluid costs kill fluid	\$15,000
Cementing costs Franklin estimate	\$49,240
Supervision	\$20,000
Mob and De-Mob	\$30,000
<b>Total Plugging Estimate</b>	<b>\$363,740</b>

<b>Plugging Cost Estimate GM#2 , Geophysical Monitor Well</b>	<b>Cost Estimate</b>
Rig time 0 days X \$0	\$0
Rental work string	\$0
Misc Rentals BOB etc 14 x \$750	\$0
Fluid handling frac tanks etc	\$2,500
Contract services spooling etc	\$0
Fluid costs	\$2,500
Cementing costs Franklin estimate	\$10,635
Supervision	\$2,500
Misc Seivces	\$5,000
<b>Total Plugging Estimate</b>	<b>\$23,135</b>





1290 State Road 67 N  
Vincennes, IN 47591  
Phone: (618) 943-4680  
FAX: (618) 943-5523



To: Jim Kirksey  
For: ADM Project  
Subject: Plugging Cost Estimate  
Date: December 3, 2012

Jim,

Here is the cost estimate for the plugging of the Injection well, Verification well, and the Geo-Phone well at the ADM Site at Decatur Illinois you requested. Below is the cost estimate based on 4 days at 10 hour on location per day on the Injection and Verification wells and 8 hour on one day on the Geo-phone well.

**Injection Well: 4 days**

Bottom Plug from 7000 ft to 4000 ft in 500 feet stages  
1333 sk 70/30 Class 'H'/ Type "C" Poz + 1% C-65 dispersant  
Mid Plug: 4000 ft to 2500 ft in 500 ft stages  
540 sk Class "A" +1% C-65  
Top Plugs: 2500 ft to o Surface in 500 ft stages  
903 sk Class "A"  
Pumper Mixer  
Field Bin  
Crew  
List Price: \$116,543.39 including IL State Sales Tax on Materials  
**Discounted Price: \$104,889.05** if paid within 30 days of invoice date

**Verification Well: 4 days**

Bottom Plug from 7000 ft to 4000 ft in 500 feet stages  
360 sk 70/30 Class 'H'/ Type "C" Poz + 1% C-65 dispersant  
Mid Plug: 4000 ft to 2500 ft in 500 ft stages  
166 sk Class "A" +1% C-65  
Top Plugs: 2500 ft to o Surface in 500 ft stages  
276 sk Class "A"  
Pumper Mixer  
Bulk Units  
Crew  
List Price: \$49,240.24 including IL State Sales Tax on Materials  
**Discounted Price: \$44,316.21** if paid within 30 days of invoice date

**Geo-phone Well:** 1 day

Bull head Plug well down 4 ½" casing

250 sk Class "A"

Pumper Mixer

Bulk Units

Crew

List Price: \$11,816.13 including IL State Sales Tax on Materials

**Discounted Price: \$10,634.51** if paid within 30 days of invoice date

Prices are good for 45 days from the date of this estimate and are estimates based on calculated volumes and estimated time on location, any additional time and materials needed to do the job at time of work will be discounted at the same rate.

If you have any questions please feel free to give me a call and discuss any of the systems. I would like to thank you for allowing Franklin the opportunity to work with you on this project. We do appreciate your continued interest and support of our services.

Sincerely,

Jerry Robinson

Sales Manager

Franklin Well Services, Inc.

618-943-4680 office

618-943-9591 cell

[jrobinson@franklinwell.net](mailto:jrobinson@franklinwell.net) e-mail

[www.franklinwell.net](http://www.franklinwell.net) web